

PHENIX WEEKLY PLANNING

TECHNICAL
SUPPORT
NO. 1



9/1/2011
Don Lynch

This Week

- Tropical Storm Irene disrupts lab
- VTX/FVTX testing assembly and prep for integration continues
- VTX/FVTX coordination meeting
- RPC1 Assembly & QA tests continue
- MuTr station 1 FEE plates removed and stowed at AH
- Station 1 scaffolding disassembled
- Station 1 scaffolding reassembled
- MuTr Station 1 Chambers removal and delivery to MuTr area at RPC Factory
- MuTr station 2/3 N&S work continues
- Continue cable fabrication, electrical support and assembly for RPC1
- IR west 1 ton load test??
- Continue gas system tasks

Next Week

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- Station 1 Recapacitation and overhaul at RPC Factory
- Continue MuTr station 2 & 3 N & S capacitor clamps and termination
- Evaluate station 2
- VTX repairs/upgrades/reassembly continues
- FVTX assembly continues
- RPC1 assembly & QA testing continues at factory
- Continue cable fabrication, electrical support and assembly for RPC1
- Continue gas system tasks
- Reconfigure scaffolding for RPC1 North installation
- Begin RPC1 North Installation

General Tasks

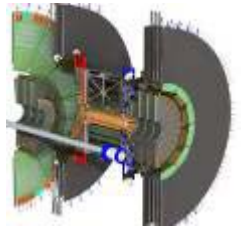
2011 Shutdown

- Remaining Work Permits needed
 - End of Shutdown WP 10/1
- IR Crane repairs and upgrade (east done, west later) Done
- BBC North & South maintenance In Progress
- Reinstall BBC North 10/7
- Reinstall BBC South 11/18
- Upgrade AH crane ?????
- DC/PC1 East/West troubleshooting as required 10/15-11/15
- Undefined detector subsystem maintenance and repairs 7/25-11/7
- Prep for EC roll in, reinstall MMS lampshade 11/28-12/2
- Roll in EC 12/5
- Prep IR for run 12/5-12/9
- VTX, FVTX and RPC1 Services and QA tests 9/16-11/30
(including 4 new racks)
- Pink/Blue/White sheets 12/12-12/23
- New and upgraded full detector commissioning 9/15-12/31
- Run 12 cooldown 1/1/2012

VTX/FVTX Tasks

TECHNICAL SUPPORT ZONE

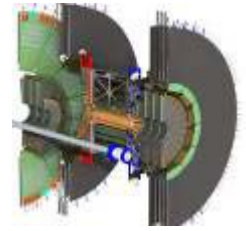
- VTX/FVTX maintenance/upgrade and integration of FVTX onto VTX support structure
 - VTX E & W in Chemistry Lab. LDTB test in Chem Lab Done
 - VTX pixel electronics test to start (4-5 days) Done
 - VTX Disassembly into 1/2 barrel layers starts. Done
 - Hirose connector inspect
 - FVTX Interconnect cables all available 100% accounted for, testing in progress
 - VTX LDTB spares available Done
 - Spiro boards removed ready to ship for repair Done
 - Hirose connector fix 8/9-9/23
 - 6 FVTX ROCs available 9/12
 - VTX spare pixel ladder at BNL. Ladder install starts. 9/23
 - Physics lab
 - FVTX, 1st 1/2 cage available. 1/2 cage system test in 9/16
 - FVTX Remaining ROC boards at BNL 9/30
 - JPS Meeting 9/16-20
 - FVTX 1/2 cage install in VTX @ Chem lab. 1/2 cage + 9/19
 - VTX ladder test start
 - FVTX all 1/2 cages ready 10/21
 - VTX+FVTX final installation to start 10/21
 - Final VTX+FVTX Survey in Chem Lab 10/24-10/28
 - VTX+FVTX ready to move to 1008 10/31
- VTX/FVTX Installation at 1008
 - Build 2 FVTX racks 7/1-9/15
 - Install VTX/FTX, Re-connect VTX services, 10/24-11/11
 - Install FVTX services, survey and QA tests
 - VTX/FVTX Commissioning & Contingency 11/11-12/31
 - Chiller leak/contamination improvements 10/1



FVTX Schedule Update

01-Sept-2011

FVTX Milestones, Status



ROC Boards

- | | |
|--|-------------------|
| • 6 Boards received at LANL and shipped to assembler | Aug 19 |
| • Anticipated date to receive 6 assembled boards | Sept 8 |
| • Test boards and ship to BNL | Sept 8 – Sept 12? |
| • Remaining ROC boards assembled | Sept 12 – Sept 23 |
| • Ship remaining boards to BNL and assemble | Sept 28 – Oct ? |

Cage Assembly

- | | |
|---|--------------------|
| • Assembly of first ½ cage | present – Sept 16? |
| • Test Cage | |
| • Send first ½ cage to Chemistry | week of Sept. 19 |
| • Assemble remaining three ½ cages and test | present – Oct. 21? |
| • Send last three ½ cages to Chemistry | Oct. 21 |

VTX StriPixel Status

- Tests over past week indicate that there are problems with some capacitors on the LDTBs which resulted in readout problems last run.
- Replacing capacitors on LDTBs should be completed by Tuesday, 6-Sept-2011, awaiting a few boards that are in transit.
- Testing of ladders with LDTBs completed 9-Sept-2011.
- Testing of readout chain (ladder-LDTB-DIB/CIB) completed 16-Sept-2011.
- Will need to re-test ladders once Pixel Barrels have been re-installed, estimate 1.5 weeks time required

MuTr North Station 1 work

- | | |
|--|----------------------|
| • Install access (Sta. 1 work platforms & CM west side hanging platform) | In progress |
| • Remove 1 section of bridge (1 week) (CAD Techs) | Done |
| • Disconnect Cables, hoses etc, ID/label all (1 week) | Done |
| • Remove FEE plates and chambers (1 week) | FEE Plates Done |
| | Chambers In Progress |
| • Station 2 Maintenance/upgrade through access opened by station 1 removal (3 weeks concurrent with next task) | 9/2/-9/23 |
| • Clean/install new parts and upgrades (MuTr (3 weeks, At RPC Factory) | 9/2/-9/23 concurrent |
| • Re-install chambers and FEE plates (1 week) | 9/26-9/30 |
| • Re-cable, re-hose and test (3 weeks) | 10/3-10/21 |

MuTr North & South Station 2 & 3 Re-cap clamps

(No internal work platforms to upper octants)

- | | |
|---|---------------|
| • CAD Techs to remove MMS east vertical lampshade- | Done |
| • Install new capacitor clamps and terminators in lower octants | (In Progress) |
| | 7/25-12/31 |

RPC Tasks

Remove RPC1 prototype and prototype absorber

Done

Procurement and Assembly at RPC Factory

In Progress

Pre-survey RPC1's at factory

Done

Build 1 new rack, upgrade existing RPC1 prototype rack

7/25-8/12

Install north RPC1 (including north rack & services) (3 weeks)

9/6-9/23

HV Tests, gas system calibration

9/23-10/14

Move Station 1 work platforms to south station 1

10/17-10/28

Install south RPC1 (including south rack) (3 weeks)

10/31-11/11

RPC1 north and south commissioning

RPC3 HV Distribution modifications, gas distribution

9/6-11/30

modifications, PS calibration HV and services testing

TECHNICAL SUPPORT ZONE

Electronics Group Tasks

2011 Shutdown

- RPC1 HV cables & HV boxes & Racks
- RPC3 additional HV boxes
- CMT3 and CMT4 FVTX rack design and assembly for installation on the bridge
- FVTX Bias cable assemblies
 - 48 eight pair #22AWG. 1680 ft total
 - 384 RG-174 cables terminated with CPC and MMCX R/A conns. 1500 ft total
- Purchase and install FVTX LV cables
 - Wedges: 96 eight pair #22AWG terminated in DF11 conns. 3400 ft total
 - ROCs: 24 twelve pair #16AWG terminated in TYCO 2-106527-4 conns. 900ft total
- All FVTX fiberoptics specify, purchase and install
- FVTX LV output mapper boards
- PbSc terminator board production
- MuTr station 1 capacitors
- West carriage ADAM system performance upgrade
- Complete the GL1 6X1 Multiplexer assemblies and test
- LeCroy HV control retrofit testing
- Design/Install FVTX Interlock system.

*cables terminated & ready for installation.
Boxes & racks ready for ass'y
Ass'y in progress
Design in progress*

*Ready to be sent out for bid
Received?*

Received?

Cable is here

*MTP trunk here. Slow Controls fiber and patch bay on order
Finished and installed in boxes ready to be rack mounted
Terminators are here
here
Purchased a couple of Ethernet ADAMs for testing. Now testing a MODBUS server
Layout stage almost complete
Still Waiting for documentation from Debrecen Institute
Paul with some input from Steve and John.
Design and development in progress*

TECHNICAL SUPPORT NO. 1

Miscellaneous Gas & Cooling System Tasks

- Insulation for stainless steel lines feeding VTX Done
- Redo bypass line on VTX/FVTX spare chiller to remove kink 7/1-12/31
- Clean VTX/FVTX chiller reservoirs Done
- Move RPC R134A tanks nearer to GMH, install cover, insulated lines 7/1-12/31
- Modify RPC3 tunnel manifolds (north and south) Done
- Replace MuTr flowmeters (north and south) 7/1-12/3



Station 2 access from
station 1 side
TBD after (MMS shown
MMN is similar)

RPC Factory site to be utilized by both
RPC1 fabrication/testing and MuTr
station 1 chamber repair/upgrade

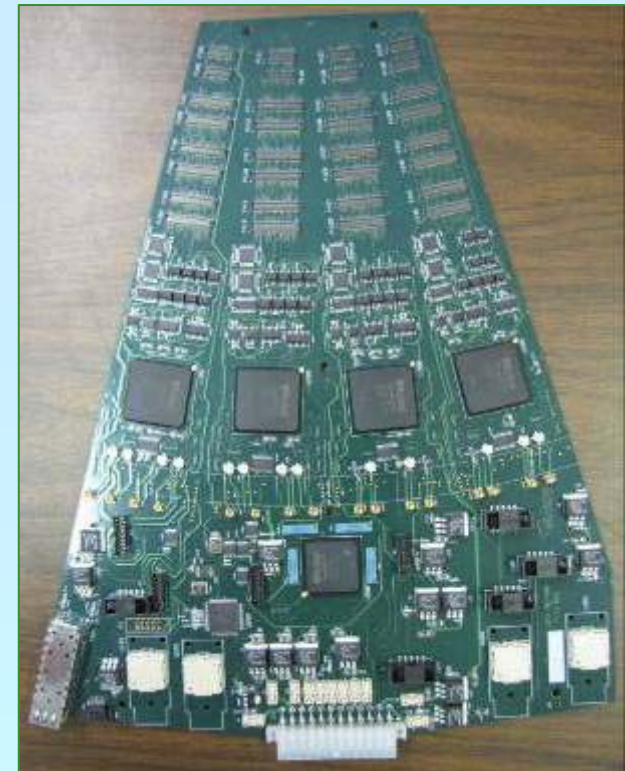
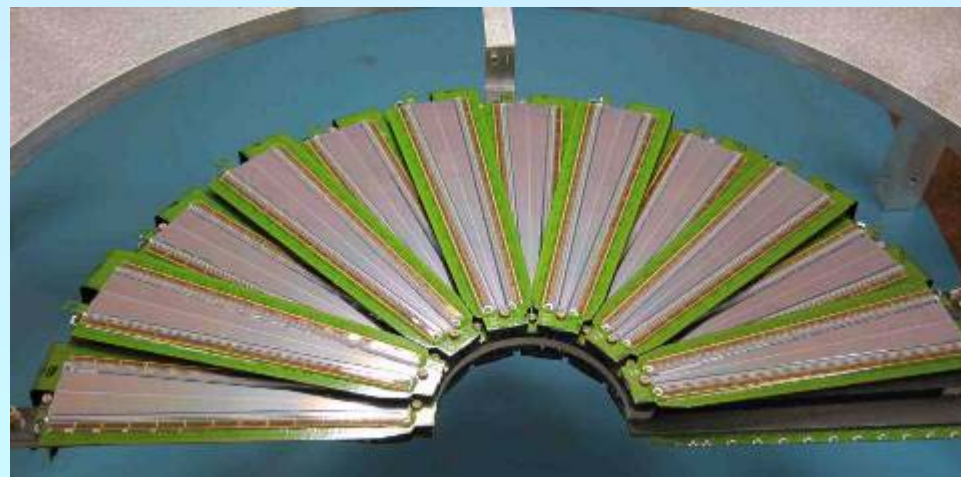






VTX





FVTX

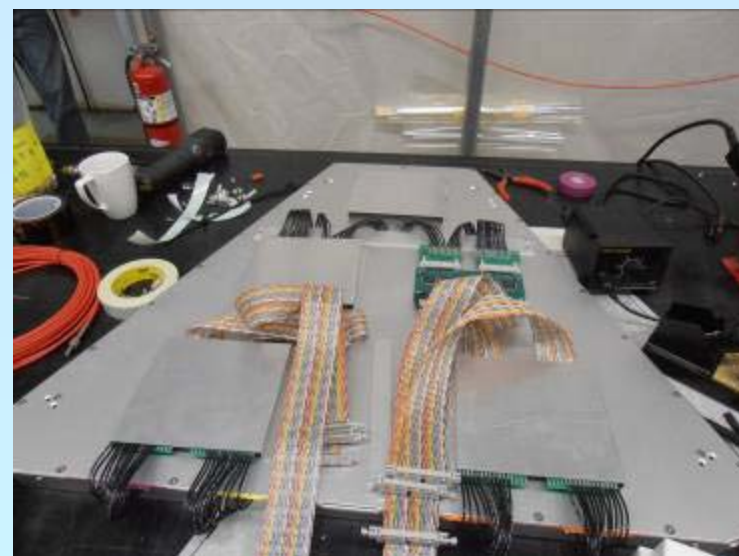
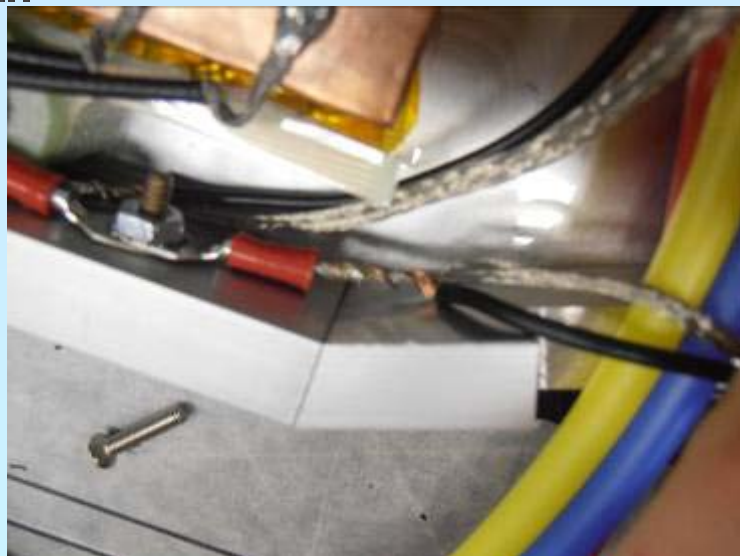


TECHNICAL SUPPORT NO. 1



RPC1

9/1/2011



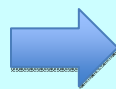
RPC1

RPC Hodoscope

TECHNICAL SUPPORT



Close to RPC3 electronics rack
Less Beam background region



Location 1 or 2 would be good position

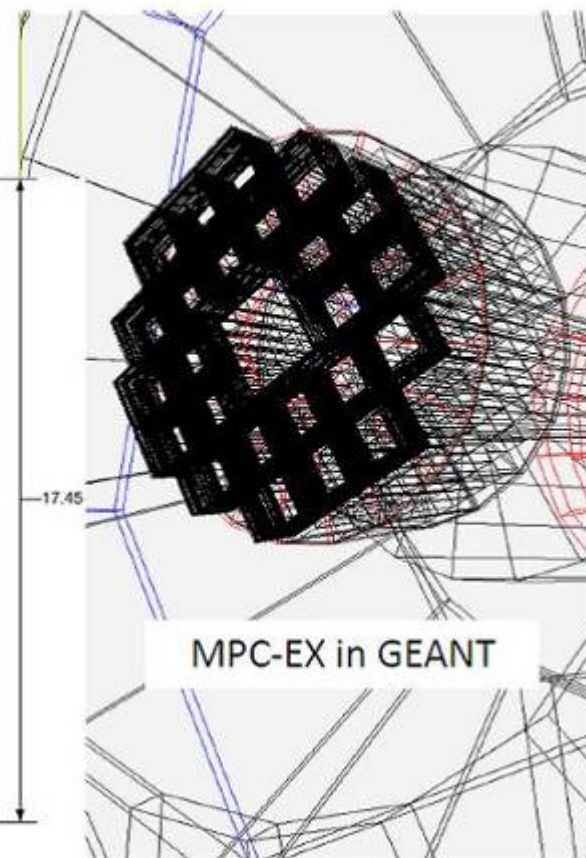
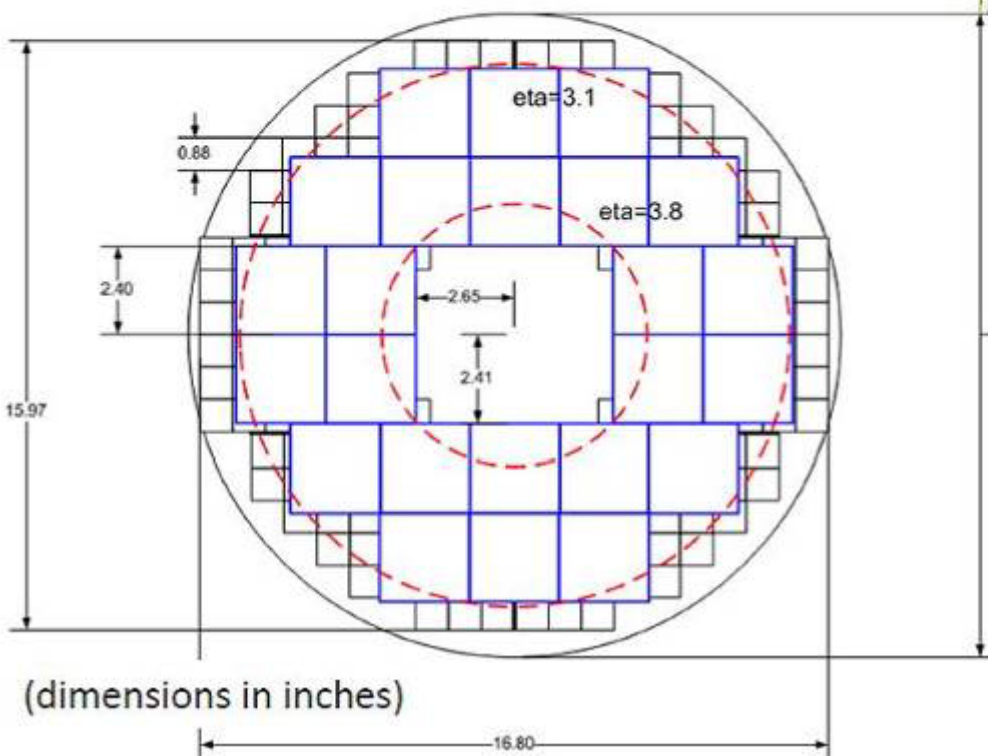
Need shed for R134A bottles close to GMH. No heating in shed (except heating blankets), lines to be insulated. Last year heating blankets kept gas warm but long length of pipe allowed gas to liquify on coldest days.

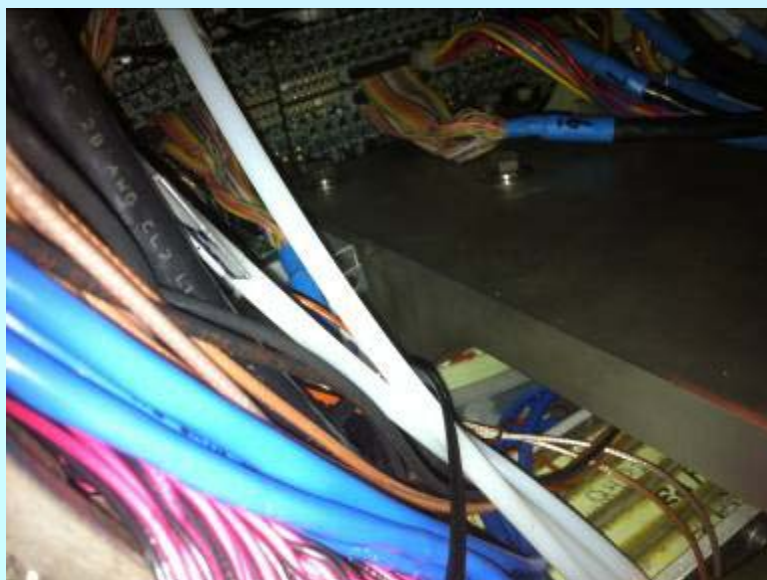
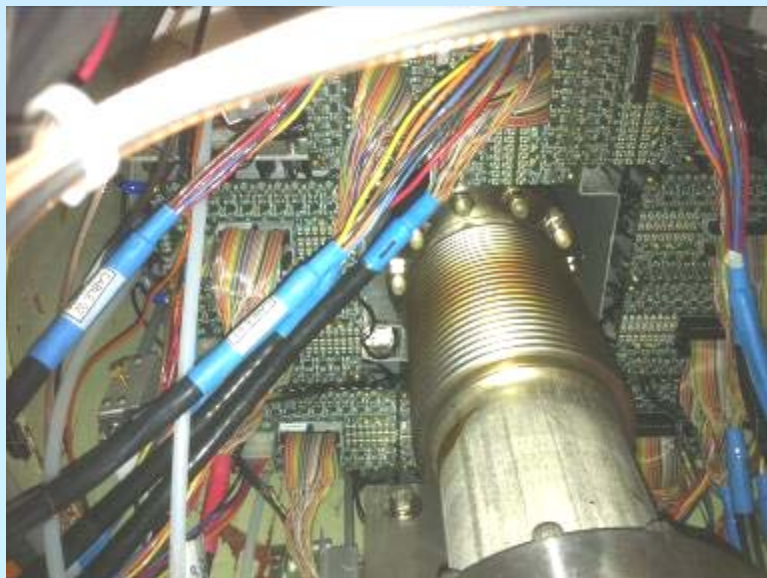


Possible location for shed 8' deep with 10' x 8' doors, and with bottom and top openings.. should satisfy ODH issues ~\$2K.

Design of the MPC-EX

Detector is designed around 6.2cm x 6.2cm modules (Si pad or strip detectors) separated by 2mm tungsten plates.





- Roof leaks in utility bathroom at northwest corner behind tech offices, over door between rack room and assembly hall, over door between control room and elect. ass'y room, southeast corner of IR and laser room.



- Flooding in AH/ Driveway heaving

Nothing New



- Electronics test/assembly room-to-parking lot door (does not open/close/lock properly - needs to be replaced)
- Temperature in utility hall (where new air compressor is installed) is exceedingly high (transformer cases as high as 135 F)



Done

MuID Fixtures other location for safe storage

PHENIX Procedure Review Current Status:

147 Procedures Identified

- 87 Made Inactive (not currently in use, will require revision to re- activate if and when necessary, available for reference purposes)
- 9 CAD procedures relevant to PHENIX, all are up to date and available on the CAD web site
- 43 PHENIX all are
- 9 Proposed/Defunct (never previously formalized) (3 are ready for review) will be addressed during next few months.

Nothing New

Web retrieval of latest procedures now available from PHENIX Internal:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_procedures.htm

All active Procedures are up to date through the end of 2011.

Holiday Weekends are traditionally highest accident times.

A large percentage of accidents are alcohol related

Be careful driving, boating, barbequeing, etc.



Where To Find PHENIX Engineering Info



Labor Day Holiday

Next Monday 9/5

Lab Closed

Links for the weekly planning meeting slides, archives of past meeting slides, long term planning, pictures, videos and other technical info can be found on the PHENIX Engineering web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

